

Listing of Claims:

The following claims list supercedes any other listing of the claims of the invention.

1. (Currently Amended) An ultrasonic probe comprising an ultrasonic transducer, the ultrasonic transducer further comprising, by sequential lamination:

- an acoustic lens;
- an acoustic matching layer;
- a piezoelectric element; and
- a backing member,

wherein the backing member ~~is for attenuating ultrasonic waves~~ arranged on a surface ~~that is opposed to a surface side~~ of the acoustic matching layer ~~in order to attenuate ultrasonic waves~~ and the acoustic lens arranged ~~at~~ at ~~[[to]]~~ the piezoelectric element contains a synthetic rubber having a mixture including acrylonitrile-butadiene rubber (NBR), ethylene-propylene terpolymer (EPDM), and at least inorganic fine powders.

2. (Currently Amended) An ultrasonic probe according to Claim 1, wherein the backing member has ~~a hardness property, as the properties, the hardness of~~ between 80 to 100 degrees in the A scale in conformity with JISK6253 and ~~an~~ an ~~[[the]]~~ ultrasonic absorbing coefficient of 10 ~~or more~~ or more ~~at a~~ at ~~[[the]]~~ frequency of 5 MHz.

3. (Currently Amended) An ultrasonic probe according to Claim 1, further comprising: an exterior cap which immerses the ultrasonic transducer in an acoustic medium, and wherein the backing member immersed in the acoustic medium ~~displays a~~ has the percentage of absorption ~~that is~~ is ~~[[of]]~~ 2.5% or less and displays an ~~an~~ ~~[[the]]~~ acoustic impedance ~~that is~~ is within a range of 1×10^6 to 8×10^6 [kg/(m²·s)].

4. (Currently Amended) An ultrasonic probe according to Claim 1, further comprising:
a flexible shaft which rotates the ultrasonic transducer using ~~[[by]]~~ a driving motor.
5. (Currently Amended) An ultrasonic probe according to Claim 1, further comprising:
a coating film which covers the ultrasonic transducer to protect ~~and protects~~ it from the
acoustic medium.
6. (Currently Amended) An ultrasonic probe according to Claim 1, wherein the acoustic
medium is aqueous solution that imposes a water-with low attenuation on ~~[[of]]~~ ultrasonic waves
arriving at the surface, and wherein the ~~[[an]]~~ aqueous solution is obtained by adding an additive
to the water, or oil that displays a ~~with the~~ low attenuation to ~~[[of]]~~ ultrasonic waves.
7. (Currently Amended) An ultrasonic probe according to Claim 1, wherein the
ultrasonic transducer comprises at least:
a piezoelectric element which receives and transmits ultrasonic waves; and
a backing member which is arranged at a ~~to the~~ rear surface side of the piezoelectric
element,
wherein the backing member is a mixture including acrylonitrile-butadiene rubber
(NBR), ethylene-propylene terpolymer (EPDM), and at least inorganic fine powders, and
wherein
the backing member is a synthetic rubber having a ~~as the properties, the~~ hardness
property of between approximately 80 to 100 degrees in the A scale in conformity with
JISK6253 and having an ~~[[the]]~~ ultrasonic absorbing coefficient of approximately 10 [dB/mm] or
more ~~{dB/mm}~~ at a ~~[[the]]~~ frequency of 5 MHz.

8. (Currently Amended) An ultrasonic probe according to Claim 1, wherein the ultrasonic transducer comprises at least:

a piezoelectric element which receives and transmits ultrasonic waves; and

a backing member which is arranged at a ~~to the~~ rear surface side of the piezoelectric element,

wherein the backing member is formed as a mixture including acrylonitrile-butadiene rubber (NBR), ethylene-propylene terpolymer (EPDM), and at least inorganic fine powders, wherein

the backing member is a synthetic rubber having ~~a~~ as the properties, the hardness property of approximately ~~[[the]]~~ 80 to 100 degrees in the A scale in conformity with JISK6253 and an ~~[[the]]~~ ultrasonic absorbing coefficient of approximately 10 [dB/mm] or more ~~{dB/mm}~~ at a ~~[[the]]~~ frequency of 5 MHz, and

wherein the backing member further displays a ~~has, the property, the~~ percentage of absorption property of approximately 2.5% or less, and an ~~[[the]]~~ acoustic impedance in an approximate ~~[[the]]~~ range of between 1×10^6 to 8×10^6 [kg/(m²·s)].